

ABSTRACT

The purpose is to improve the mixture ratio of a pre-mixer by a simple arrangement to form a more uniform premixed gases so as to materialize low NOx combustion. Two fuel nozzles disposed circumferentially of a pre-mixer are combined with a single air intake window to make a set, which set is used to produce swirls in a pair, thereby expediting mixing. Further, the inlet window is shaped such that its circumferential width is changed axially of the combustor, thereby changing the strength and size of the swirls to achieve the greatest effect. By reducing both the pre-mixer inlet windows and the partition walls in number, the manufacturing cost can be reduced, and by strengthening and optimizing the swirls, a combustor with superior low NOx performance can be provided, while it is possible to reduce the length of the pre-mixer necessary to obtain the same mixture ratio, leading to a cost reduction.